

## **COLUMBIA RIVER REGIONAL FORUM**

### **TECHNICAL MANAGEMENT TEAM**

March 18, 2009 Conference Call

#### **FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS**

Facilitator: Robin Gumpert

Notes; Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **SOR 2009-1**

As follow up to the 3/11 TMT meeting's discussion of SOR #2009-01, submitted by ODFW, WDFW and the Nez Perce Tribe, today's TMT conference call was scheduled to discuss several relevant documents that were to be shared with TMT members and other regional representatives. Dan Feil, COE, reported that two documents had recently been posted as links to the agenda: a kelt white paper drafted by Bob Wertheimer, COE Portland District, and a March 17 Memo regarding operation of the Bonneville Dam Corner Collector (B2CC) and the effects on tdg downstream.

Feil said that preliminary estimates showed that operation of the B2CC may increase TDG levels by 2-3% near the Warrendale gauge; he clarified that the estimates were uncertain and more recent data from USGS is needed. Feil said that the COE planned to update the memo with the most recent TDG and depth compensation (and un-compensated) data as soon as possible. Feil reported that TDG levels at the Warrendale gauge were at 108% on 3/15.

Feil reported that maintenance on Bonneville's navigation lock has rendered it out of service, and the crane at the project will need to stay in position on the south side for the repair through the end of March. As the B2CC is located on the north end of the project, a new crane would need to be brought in if a decision was made to operate B2CC before April 1. Feil clarified for TMT that discussions regarding the SOR were still underway and that no COE operational decision had yet been made.

Wertheimer provided a brief synopsis of the six-page white paper; he said that studies show that early migrants have a higher return rate than those that migrate later. The studies showed the B2CC to be the most benign route for kelt passage, especially compared to turbine passage. Wertheimer noted the significant variances between data in Table 1, which indicated the difficulty in equating one life history event/factor that affected return rates. He reviewed visual counting passage data from the B2 Primary Dewatering Structure (PDS), which conservatively suggests approximately 600 steelhead passed through the turbine units between March 1 - April 10 of 2003. Hydroacoustic tag data from studies conducted in 2007 and 2008 showed 172 and 223 kelt-sized fish passed through the B2CC from March 1 – April 10, respectively. So far this season, three kelt

were observed passing the project on 3/16. Wertheimer also clarified that during cooler water years, migration tends to be later.

TMT members thanked Wertheimer for his helpful summary. Action Agency representatives Dan Feil, COE, and Tony Norris, BPA, acknowledged the uncertainties around effects the proposed operation might have on TDG levels, depth compensation, and, given the dry conditions so far this year, achieving April 10 refill at Grand Coulee. Norris said that there are no guarantees at this point that the coming natural flows will support the necessary depth compensation to support chum redds. Feil clarified that a new crane could be brought in to help open and close B2CC in real time should TDG levels become an issue for downstream chum redds, but there are uncertainties around the net cost this option would entail. Again, Feil and Norris said no decision on the request had yet been made.

The following parties weighed in on the information associated with the request that had been presented during the call:

- OR: although there are many benefits associated with operating the B2CC, they should be balanced with meeting April 10 refill targets at Grand Coulee and providing depth compensation for chum redds. If B2CC could be operated in a way that TDG could be managed to protect chum redds, OR would support that. OR would like to see system operations managed in a way that this proposed operation could be a viable option in the future.
- WA: support those statements made by OR. Given the discussion today, the Action Agencies may not be set up to perform the requested operation at this point. Would like this option to be considered in the future.
- ID: support downstream Salmon Managers' positions; concerned about risks to April 10 refill, as it is critical for good out migrating conditions later in the year. If there was a way to meet April 10 refill and operate the B2CC in a way that provided good conditions for steelhead kelts, ID would support that, but not at the risk of missing April 10 refill.
- BOR: priority is for meeting April 10 refill at Grand Coulee; if this can happen, BOR does not object to the proposed operation.
- NOAA: appreciate the opportunity to have the conversation this year, as the data and discussions will help inform operational decisions to support steelhead kelt passage in future years.
- CRITFC: it is unfortunate that a series of crane-related events have minimized flexibility around operations for this year.

**Action/Next Steps:**

- Tom Lorz, CRITFC, will share information that was used as biological support for the SOR with DS Consulting, who will forward the documents to the broad distribution list.
- The COE will continue to hold discussions both internally and with Lower River Tribal representatives between now and the next TMT meeting on 3/25.
- The COE's current plan of opening the B2CC on April 10 stands for the time being.

- TMT will revisit this issue at their 3/25 meeting.

**Next TMT Meeting:** *Please note: TMT meetings will likely be held at NOAA Fisheries at least through April due to phone system issues in the Columbia Room at the COE. Please check the meeting agendas for location confirmation.*

**March 25<sup>th</sup>, 9-noon at NOAA Fisheries:**

Agenda items include:

- Hanford Reach Protection Flows Update
- Follow up on B2 corner collector operations discussion
- Status of spring spill / FOP
- Chum, VB and Grand Coulee April 10 target: Feedback from salmon managers and TMT discussion about priorities
- (Tentative): NMFS Science Center report on 2006-07 transportation study results
- BPA's Generation Emergency Actions List: review
- Spring spill priority list: review
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Meeting  
March 18, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Robin Gumpert (DS Consulting) with representatives of NOAA, COE, Idaho, BOR, BPA, Oregon, CRITFC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Bonneville 2<sup>nd</sup> Powerhouse Corner Collector Operation (SOR 2009-01)**

Follow up on this issue from last week's TMT meeting was the reason for meeting today. Signed by WDFW, ODFW and Nez Perce Tribe, SOR 2009-01 asked the Action Agencies to begin operating the Bonneville Dam 2<sup>nd</sup> powerhouse corner collector on March 12, 2009. The SOR was introduced at the last TMT meeting March 11, where members discussed the fact that forums outside of TMT were also dealing with this issue. It was noted that not all of the Action Agencies have representation in other forums so the issue should come back to TMT.

As of today's meeting, the COE posted (1) a white paper on kelt passage at Bonneville Dam and (2) a memo describing total dissolved gas (TDG) production due to corner collector operation and the potential need to increase Bonneville tailwater elevation to provide adequate compensation depth for chum redds by drafting Grand Coulee. Operating the corner collector does generate TDG, Feil reported. Past studies have found a 2-3% increase in TDG levels at the Warrendale gage with the corner collector open. A figure at the end of the TDG memo shows depth compensated TDG levels since March 1, 2009, with depth compensation measured at the Warrendale gage. Rick Kruger (Oregon) suggested that actual gage readings as well as computed depth compensation values be provided; Feil will update the TDG memo to include this information.

The COE is performing maintenance to the Bonneville navigation lock which requires dedicated use of the only available crane through the end of March. If a decision is made to open the corner collector before April 1, the COE would have to lease a crane. Yesterday the COE met with the Accord parties to discuss the two new documents and the SOR itself. At this point, there has been no decision to open the corner collector before April 10. However, the issue is still being discussed.

Feil introduced Bob Wertheimer, author of the white paper on kelt passage, who summarized the findings, which are based on studies of radio and

PIT tagged fish at McNary, Lower Granite and John Day dams (i.e. the lower Columbia River). Bonneville is the only reservoir whose operation affects both winter and summer steelhead migration. There is a potential for large numbers of these fish to migrate early. Findings from studies of upriver stocks show that early out-migrants have significantly higher adult returns than later runs.

These studies also found that use of the corner collector, as compared to data in 2002 before the corner collector existed, results in significantly shorter residence times in the forebay. The indication of rapid migration past the dams is presumed to have spawning benefits. The corner collector is presumed to be the most benign passage route for adults. Passage through fish screens can cause injury, which in kelts often induces a deadly fungal infection. It is also known that large fish suffer greater mortality rates from turbine passage than smaller fish do. Wertheimer highlighted the large variation in return rates, from zero to 23%, shown in the table on page 2 of the white paper. It is very difficult to evaluate adult return rates based on a single passage or life history event.

The real issue is whether the number of fish passing warrant a special operation, Wertheimer said. This kind of monitoring was done in 2007 and 2008. In March 2007, 172 steelhead kelts passed through the corner collector; in March 2008, 223 passed through it. Kelts typically have the highest return rates when their populations are at their lowest levels. That's when kelts may provide the most overall benefit to their species. Because they are larger, kelts lay larger eggs which have increased odds of survival. Kelt migration is based on water temperatures, which drive them to spawn. Creeks with southern exposure can produce many fish. Tom Lorz (CRITFC) will provide several background documents on the biological justification for opening the corner collector early for distribution to all TMT members.

TMT members then stated their views of SOR 2009-01.

COE – Due to Oregon water quality standards, if gas levels at the Warrendale gage exceed 105% while the corner collector is operating, the COE is required to provide compensation depth downstream to protect the chum redds. This flow augmentation might have to come from Grand Coulee Dam if conditions become dry. Therefore, operation of the corner collector early entails the risk of not meeting April 10 refill targets. At this point, the COE can't guarantee that natural flows will provide adequate depth compensation.

BPA – Flow augmentation needed from Grand Coulee for corner collector operation could consume water that would otherwise be available for downstream migration from April 10-30. The current elevation of Grand Coulee reservoir is approximately 1,283 feet, drafting toward a flood control elevation of 1,281.6 feet. The April 1-10 timeframe is expected to be the most crucial for maintaining a 12.5-foot tailwater elevation at Bonneville 24 hours a day in order to protect chum redds and have enough water to achieve the April 10 objective.

The Salmon Managers need to consider whether the potential risk of withdrawing water from the spring period to support depth compensation for corner collector operations is an acceptable tradeoff.

Oregon – There is great benefit in operating the corner collector early, but Oregon is unwilling to sacrifice April 10 refill to achieve that goal. Changes are needed in future to address this unacceptable tradeoff. Early corner collector operation should have been considered part of the rollover operation agreed to by the Action Agencies at the March 6 BiOp hearing. Nonetheless, Oregon will not object if the COE and BPA decide not to operate the corner collector early this year due to potential impacts on chum.

Washington – Concurs with Oregon's approach.

Idaho – Protecting kelts is important, particularly since they tend to carry large numbers of eggs per female. However, hitting April 10 elevations to provide spring flows for this year's out-migration is of paramount concern. Idaho would not object to early corner collector operation as long as April 10 refill is not significantly jeopardized.

CRITFC - Suggested opening the corner collector, monitoring it closely while keeping a crane attached to the gate, and closing the corner collector if TDG levels become a problem. The lack of a crane dedicated this year to operating the corner collector is frustrating. CRITFC will provide additional biological information on corner collector operation for TMT members to consider.

BOR – Has no objection to opening the corner collector early as long as Grand Coulee can meet all the relevant requirements, including sufficient depth compensation for chum and meeting the April 10 elevation objective. This decision is a matter of prioritizing impacts.

NOAA – Focused on how this issue will be dealt with in future years, and how the Action Agencies will incorporate corner collector use into the strategy for managing kelts.

The planned operation at present is to open the corner collector on April 10, 2009, pending further discussion. The COE will update the TDG memo and provide a link to TMT members so they can monitor current data at the Warrendale gage. The corner collector issue will be added to the agenda for the next TMT meeting. Rudd Turner (COE) suggested providing the latest kelt counts from the smolt monitoring operation at that time.

### **3. Next Meeting**

The next regular TMT meeting will be March 25, 2009. That agenda will include a Hanford Reach update; follow-up on the Bonneville corner collector operation; chum operations in relation to Vernita Bar flows and Grand Coulee refill; an update on the FOP and water supply forecasts; spill and MOP operations strategies; the BPA generation plan emergency action list; preliminary Science Center findings regarding 2006 and 2007 transport operations (if available) and the standard operations review. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Paul Wagner	NOAA
Dan Feil	COE
Bob Wertheimer	COE
Russ Kiefer	Idaho
John Roache	BOR
Tony Norris	BPA
Tim Heizenrader	Centaurus
Dave Benner	FPC
Margaret Filardo	FPC
Tom Le	Puget Sound Energy
Jay XX	Centaur Energy Trading
Barry Espenson	CBB
Rudd Turner	COE
Kim Johnson	COE
Richelle Beck	DRA
Cindy LeFleur	Washington
Rick Kruger	Oregon
Glen Trager	Shell Energy
Tom Lorz	CRITFC
Ryan XX	Ebcor